ASSIGNMENT 7

Textbook Assignment: "Metal Buildup," chapter 12, pages 12-8 through 12-10; "Repair Work," chapter 13. pages 13-1 through 13-8. and 13-13 through 13-20; "Gear Cutting," chapter 14, pages 14-1 through 14-5; and "Metallurgy and Heat Treatment," chapter 15. pages 15-28 through 15-30.

7-1. The most commonly used electroplating power packs have what output?

1. 60 to 100 amperes ac
2. 25 to 100 amperes ac or dc
3. 25 to 100 amperes dc
4. 60 to 100 amperes ac or dc

7-2. A contact plating tool consists of an insulated handle with a conductive core and an anode made of what material?

1. An iridium-platinum alloy
2. Graphite or high-quality carbon
3. Either a high quality graphite or an iridium-platinum alloy
4. Conductive graphite with cooling fins

7-3. What three types of solutions are used for contact plating and related operations?

1. Cleaning, activating, and plating
2. Preparatory, plating, and stripping
3. Plating, stripping, and activating
4. Stripping, cleaning, and activating

7-4. The possible uses of plating to repair worn or damaged parts is limited by what factor?

1. The weather
2. The brand of plating solution
3. Whether ac or dc power is used
4. The knowledge and skill of the operator

7-5. Electroplating operators must requalify when they have done no work for which they are qualified for at least how many months?

1. 8
2. 2
3. 12
4. 4

1-6. A dye penetrant inspection is required for what classes of plating?

1. l and 1A
2. 2 and 2C
3. 3 and 3A
4. 4 and 4B

7-7. Traceability and accuracy of instrument calibration is ensured by what Navy program?

1. COSAL
2. METCAL
3. 3-M
4. MDS

7-8. The philosophy of quality assurance is unique in that it does not recognize degrees of success.

1. True
2. False

1-9. When planning a machining job, you should take what step first?

1. Cut the stock
2. Research technical publications or blueprints for job specifications
3. Set up your machine
4. Select your tooling

7-10. Preventive maintenance does NOT include which of the following actions?

1. Taking oil samples
2. Changing filters
3. Cleaning machines
4. Changing a broken qear

7-11. To manufacture a pump shaft 20 inches long with a maximum diameter of 2 1/2 inches and a minimum diameter of 2 inches, what size round stock should you use?

1. Length 20 in., diameter 2 3/8 in.
2. Length 20 1/32 in., diameter 2 5/8 in.
3. Length 20 1/16 in., diameter 2 5/8 in.
4. Length 20 1/8 in., diameter 2 9/16 in.

7-12. What device is used to measure shaft runout?

1. A dial indicator
2. A micrometer
3. A vernier caliper
4. A steel rule

7-13. When bending a shaft to eliminate a 0.352 inch runout, you should release the ram pressure when the dial indicator indicates a bend of what amount?

1. 0.003 in.
2. 0.030 in.
3. 0.300 in.
4. 0.303 in.

7-14. The stub you make for a shaft 2 inches in diameter should have what diameter?

1. 3/8 in.
2. 1 1/4 in.
3. 2 in.
4. 2 1/4 in.

7-15. Permission to stub a shaft is qiven by what authority?

1. The division officer
2. The quality assurance officer
3. The commanding officer
4. The type commander

7-16. Small pits on a qlobe valve seat should be removed by what method?

1. Lapping
2. Grinding
3. Refacing
4. Spotting-in

7-17. An abrasive is placed between the disk and the seat of a globe valve during what valve seating operation?

1. Grinding
2. Lapping
3. Refacing
4. Machining

7-18. Which of the following operations includes coating a valve seat with prussian blue?

1. Grinding
2. Spotting-in
3. Lapping
4. Facing

7-19. The bodies of high-temperature, high-pressure valves are usually made of what material?

1. Monel
2. Alloy steel
3. Stellite
4. Bronze

7-20. When finish grinding a globe valve seat, you should use what type of abrasive compound?

1. Microscopic fine
2. Fine
3. Medium
4. Coarse

7-21. Most ball valves will open when the handwheel is turned what amount?

1. 30°
2. 45°
3. 60°
4. 90°

7-22. Why are gate valves not used for throttling?

1. They are too big
2. They vibrate when partially open
3. They open and close too slowly
4. They are made from the wrong material

7-23. The stem is attached to the gate by threads on what type of gate valve?

1. Rising stem
2. Wedge
3. Nonrising stem
4. Steam

7-24. Silver seals are used in which of the following valves?

1. Saltwater globe
2. Hydraulic
3. Pressure seal bonnet globe
4. Air

7-25. On a pump impeller. radial clearance is what fraction of the diametrical clearance?

1. 1/4
2. 1/2
3. 5/8
4. 3/4

7-26. When replacement wearing rings for a centrifugal pump have inaccurate concentricity. it is usually corrected by what method?

1. Grinding
2. Lapping
3. Machining
4. Polishing

7-27. Pressed-on shaft sleeves are removed from a pump with the aid of a

1. gear puller
2. sleeve puller
3. lathe
4. torch

7-28. Which of the following parts of a centrifugal pump usually has a renewable surface?

1. The impeller passage
2. The balance passage
3. The rotor shaft
4. The discharge passage

7-29. When drilling a hole in a stud that has been broken below the surface of the piece it was holding, you should establish the center of the stud by using what tool?

1. A drill index
2. A center punch
3. A twist drill
4. A center drill

7-30. When a tap is broken oft at or slightly below the surface of the work, you may be able to remove it with which of the following tools?

1. Pliers
2. A twist drill
3. A tap extractor
4. An easy out

7-31. As a last resort, a broken tap or stud may be removed by using what machine?

1. A drill press
2. A plating machine
3. A boring machine
4. A metal disintegrator

7-32. When using a metal disintegrator to remove a broken tap, the electrode should be what size?

1. The smallest diameter of the tap
2. The tap drill size
3. The largest diameter of the tap
4. The pitch diameter of the tap

7-33. Which of the following is NOT an example of in-place machining?

1. Resurfacing a valve flange
2. Reseating a gate valve seat
3. Boring a valve inlay area
4. Manufacturing a silver seal

7-34. When quiet operation is important, a gear should be manufactured from what material?

1. Steel
2. Nonmetallic
3. Monel
4. Brass

7-35. In spur gear terminology, what is the dedendum (DED)?

1. The circle formed by the tops of the gear teeth
2. The whole depth minus the clearance
3. The circle formed by the bottoms of the gear teeth
4. The depth of the tooth inside the pitch circle

7-36. The distance from one side of the root circle to the opposite side passing through the center of the gear is known by what term?

1. Whole depth
2. Root diameter
3. Circular pitch
4. Working depth

7-31. What is the most important calculation in making a spur gear?

1. Pitch circle
2. Outside diameter
3. Diametral pitch
4. Chordal thickness

IN ANSWERING QUESTIONS 7-38 THROUGH 7-41, REFER TO THE GEAR IN FIGURE 7A.

7-38. The pitch diameter is indicated by what line?

1. A
2. B
3. C
4. D

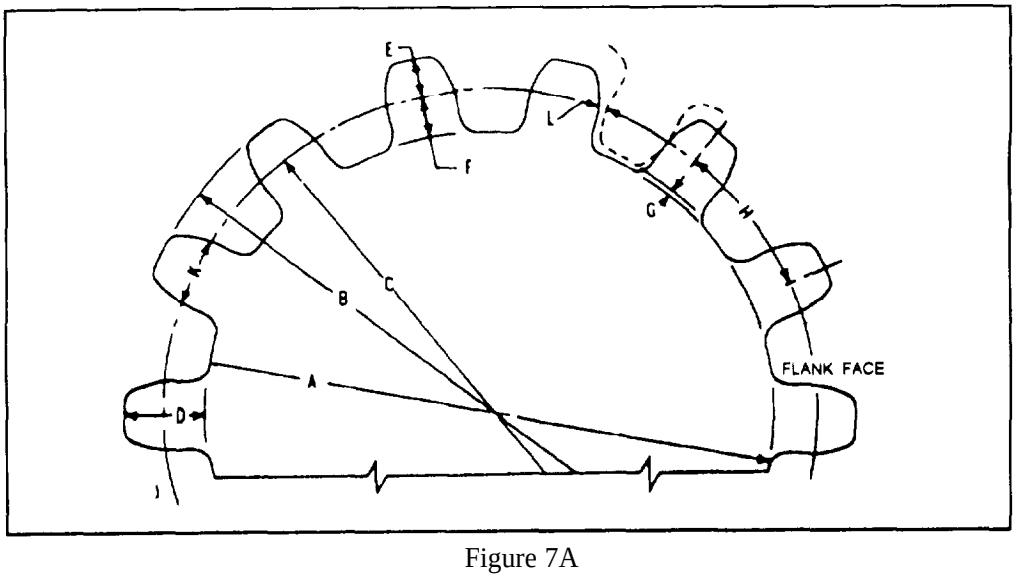

Figure 7A

7-39. The circular pitch is indicated by what letter?

1. E
2. H
3. J
4. K

7-40. The whole depth is indicated by what dimensions?

1. E + G
2. E + k
3. B - A
4. E - G

7-41. If B is 4 inches and D is 5/8 inch, what is the root diameter?

1. 2 3/4 in.
2. 3 in.
3. 3 1/4 in.
4. 3 1/2 in.

Questions 7-42 through 7-46 are based on an 8 DP, 32-tooth gear whose outside diameter is 4.250 inches.

7-42. What is the whole depth of tooth on this gear?

1. 0.2696
2. 0.4044
3. 0.4348
4. 0.5285

7-43. What number cutter should be used to cut this gear?

1. 7
2. 8
3. 3
4. 4

7-44. What is the addendum on this gear?

1. 0.0386 in.
2. 0.1250 in.
3. 0.1964 in.
4. 0.2696 in.

7-45. The stock you will use to make this gear should be what minimum diameter?

1. 4 1/8 in.
2. 4 1/4 in.
3. 4 3/8 in.
4. 4 1/2 in.

7-46. The gear tooth thickness should be checked with what gauge?

1. A micrometer
2. A gear tooth vernier caliper
3. An indexing gauge
4. A dial vernier caliper

7-47. The Rockwell hardness tester works on what principle?

1. Measuring indentation
2. Heat resistance
3. Flexibility of the metal being tested
4. Shear strength of the metal being tested

7-48. When testing softer metals with the Rockwell hardness tester, you should use what size penetrator?

1. 1/64 in.
2. 1/32 in.
3. 1/16 in.
4. 1/8 in.

7-49. When you use a Rockwell hardness tester to test a specimen of very soft steel, the specimen can be what minimum thickness?

1. 0.040 in.
2. 0.050 in.
3. 0.080 in.
4. 0.090 in.

7-50. What is the simplest method used to test a material's hardness?

1. Spark
2. Rockwell
3. Tukron
4. File

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